Articles

Violence Against Surgical Residents

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Violence against hospital personnel is underreported (less than one in five assaults), and accurate statistics as to the rate of violence against hospital personnel are thus difficult to establish. In the psychiatric discipline, an abundance of information has been published regarding violence in the health care setting, but few studies have examined violence outside psychiatric hospitals or by patients not diagnosed with psychiatric ailments. Using a survey that elicits information about workplace violence, we sought to gauge the prevalence of violent acts affecting general hospital workers who treat victims of violence on a daily basis. The survey was completed by a cohort of surgical staff nationwide (475 responses from 57 residency programs). Two hundred and eighty residents reported having witnessed one or more physical attacks, and 179 reported having been attacked. Violent acts were more likely to be committed in a public hospital than a private institution ($P = 0.05$). As shown in previous research, most attacks occurred in the emergency room ($P = 0.01$); the wards and parking lot were next in frequency. Women residents were more likely than men to call hospital security to intervene in a potentially violent situation ($P = 0.04$), and junior residents (postgraduate years 1–4) were more likely to be attacked than senior residents (≥5 years) ($P = 0.04$). The attacker was most likely to be a young black male between ages 19 and 30 ($P = 0.01$). We found no statistical relationship between the attacker and the victim regarding sex or race. Of the 475 respondents, 470 reported that they carry a gun themselves or know someone in the hospital environment who carries a gun.

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Violence and conflict seem to be increasingly common aspects of everyday life. One million US inhabitants die each year as a result of intentional homicide or suicide; gunshot wounds are the leading cause of death in black and white teenage boys.[1] The National Institute for Occupational Safety and Health reports that violence "is a major contributor to occupational injury and death." Every week, 18,000 workers are assaulted at work, resulting in millions of lost workdays and millions of dollars in lost wages.[2] It has been suggested that the frequency and severity of work-related violence also are increasing, as are the numbers of different work groups involved,[3] which include police and prison officers, housing office staff, social workers, nurses, teachers, postal carriers, bar staff, retail sales staff, post office workers, and those involved in transport and banking. Violence seems to be most likely to occur where services are being provided—in a hospital, for example.

The majority of trauma patients in inner-city and university-based hospitals are victims of violence. Surgical residents and staff regularly deal with trauma patients and are well equipped to handle the basic protocol of trauma response and life support. What they are not trained for is handling violence directed against them and their co-workers at the hospital itself.

Violence in psychiatric hospitals and by psychiatric patients is well covered in the literature.[4–9] A psychiatric diagnosis of mental illness has not been clearly shown to predict violent behavior,[10] however, and the American Psychiatric Association Task Force Report includes the statement, "Dangerousness must not be equated with mental illness, nor should mental illness be equated with dangerousness."[11]

Unfortunately, little has been published about violence in general hospitals by patients without diagnosed psychiatric disorders. The data we do have are from emergency physicians, internists, and family practitioners.[7,12–15] In this study, we polled a group of physicians—surgeons—who deal with victims and perpetrators of violence on a daily basis. We asked who commits violent acts, why the violent acts are committed, and when, where, and how they are committed. We reviewed the literature to provide a background for this study and to compare the prevalence of violence against surgeons

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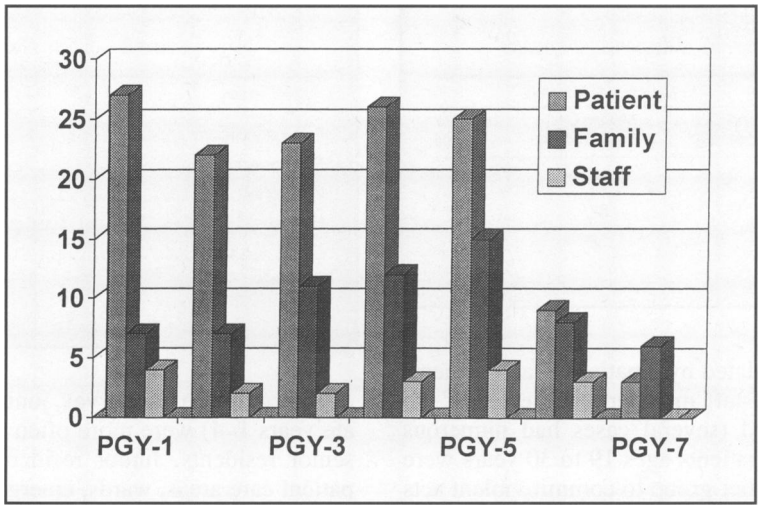

Figure 1.—The number of surgical residents who reported being attacked by patients, patient family members, and hospital staff.

with violence against practitioners in other medical specialties. Our goal is to help health care workers better understand the antecedents to violence so that they may be better able to control the outcomes.

Methods

Numerous violent attacks against residents in a training program in Louisiana prompted the survey. Its purpose was to evaluate trends and make comparisons with other training programs.

The surveys included the following elements. A section on demographics elicited data about sex, age, race, postgraduate year, and type and location of program. The second section asked whether the surgeon was ever attacked, whether the attack was verbal or physical, and whether he or she had ever witnessed an attack or felt threatened on hospital property. Other questions included whether hospital security was ever called to intervene in an altercation, who was most likely to call security, and whether security personnel carry guns. Several other questions covered the topic of guns in the hospital environment, such as who carries them (staff, patients, and surgeons, as well as security). Finally, we asked for demographic data on the perpetrators of violence and where in the hospital the violent acts occurred. The final section of the survey was reserved for comments.

We sent the surveys to surgical residents and staff at 206 teaching facilities in the US. At least one program per state was polled, including private, university-based, and military teaching programs. We received responses from 475 residents in 57 different residency programs.

We compiled the data and assessed statistical significance and trends using either Student's *t* test (for comparison of data) or an *F* test.

Results

Of the teaching programs surveyed, 28% responded, for a total of 475 responses. Positive responses (those who reported being the victim of physical violence) comprised 38% (n = 179) of the total, and negative responses, 62% (n = 296). Two hundred and eighty physicians (59%) reported having witnessed a physical attack. Five residents (1%) reported no fear of attack—that they were at "safe" institutions. Of the other 470 respondents, 51% (n = 239) reported being verbally threatened; 49% (n = 231) did not. Almost 20% of the 179 residents who reported being a victim of violence reported several instances during their training. Junior residents (postgraduate years 1–4) were more likely to be attacked than senior residents (≥5 years) ($F_{6467} = 3.97$, $P = 0.04$) (Figure 1).

Ninety women (19%) and 385 men (81%) responded; ages ranged from 26 to 40 years. The majority of the respondents were from university-based programs (59%; n = 280); 36% (n = 173) from private programs; and 5% (n = 22) from military programs. More than half of the respondents (51% ; n = 240) were in a small cities (defined as population <200,000). Table 1 depicts the demographics of the responses by hospital type and size of city. Violent threats were more likely to occur in public general hospitals than in private ones ($F_{2467} = 2.92$, $P = 0.05$). No significant differences were found between attacks in public and private general hospitals ($F_{2467} = 1.16$, $P = 0.313$) or between different-sized hospitals. Attacks were more likely to occur in the emergency room than in any other section of the hospital ($F_{6467} = 5.46$, $P = 0.01$); the wards and the parking lots were next in frequency (Table 2). More women than men reported calling hospital security to intervene in a potentially violent situation ($F_{1464} = 3.901$, $P = 0.04$).

In 138 cases (63% of the 218 who identified one or more attackers), the attack was initiated by a patient, 66

Table 1.—*Demographics of Responding Hospitals*

	Number of Respondents		
Type of Hospital	*Small City <200,000*	*Medium City 200,001–700,000*	*Large City >700,000*
Private	94	58	21
University-based	137	88	55
Military	9	8	5

Table 2.—*Where Attacks Occur*

Hospital Section	*Reported Number of Attacks*
Emergency room	173
Floor or ward	71
Parking lot	61
Hallway	16
Clinic	12
Cafeteria	1

attacks (30%) were initiated by a patient's family member, and 14 (7%) by a staff member (Figure 1). Of the 237 attackers identified (several cases had numerous attackers), black male patients ages 19 to 30 years were more likely than any other group to commit violent acts in general hospitals ($F_{10,464} = 5.03$, $P < 0.05$) (126 black [53%], 75 [32%] white, 31 [13%] Hispanic, and 5 [2%] Asian; 218 men [92%] and 19 women). Thirty-seven attackers were under 18 years old, 138 were 19–30, 50 were 31–50, and 12 were older than 50 (Table 3).

Finally, 470 (99%) of the 475 respondents reported either that they carry a gun or that they know someone in the hospital (staff, security, other residents) who carries a gun. At least six accidental firings of guns—for example, a gun falling out of a locker and discharging—by staff or residents in the hospital were noted in the comments section.

The response rate to this survey was 28%, comparable to other non-associated polls that have been completed by surgical residents and staff. The results were well distributed throughout the country (Northeast, South, Southwest, Midwest, and West Coast). The lower rate of responses by women vs by men is within expectations for surgical trainees in the US.[16]

Discussion

Reports of violence against physicians date back at least a hundred years.[17] There are few reports in the literature regarding nonpsychiatric violence, and none of them concern surgeons.[6,7,9,12,13,18] This research has added to our understanding of violence in a general, nonpsychiatric hospital setting.

One reason that researchers have proposed for increases in hospital violence is organizational downsizing. As hospital staffs become smaller, patient frustration and violence increase. At a large state hospital in Maryland, assaultive injuries to staff quadrupled as the number of beds was reduced by 30–40% between 1980 and 1989.[19] This may have occurred because of changes in the resident population: as the number of beds decreased, the proportion of disruptive patients on all wards increased. Other possible reasons for violence are physical environment, inexperienced staff, poor interpersonal relationships among staff members, power conflicts, low morale, poor occupational therapy programs, and fear of patients.[20]

According to our survey, junior residents (postgraduate years 1–4) were more often targets of violence than senior residents. Junior residents spend more time in patient care areas, wards, emergency rooms, and clinics and are most likely to be the first clinician to meet the patient for evaluation. Also, with experience may come safety—senior residents may develop mechanisms of defusing potentially violent situations.

Kinzel has studied the sensitivity of certain individuals to close physical encounters and demonstrated the extreme sensitivity of violent offenders to their "body-buffer zone." A concept originally developed by Horowitz, Duff, and Stratton, the body-buffer zone is the area surrounding each individual that represents the self-defined boundaries of "inner" vs "outer." Anxiety is triggered when someone trespasses in that zone.[21,22]

Control is a vital issue with clinicians, especially surgeons. Patients are given instructions and limits and may be lectured on their problems and behavior, and they may respond violently. Several researchers found that assaults occurred when the staff was setting limits for the patient's well-being. The most common conflict was over cigarette smoking. Five comments in our survey concerned threats made by patients when they were asked to stop smoking. One patient, smoking under a fire alarm that had been set off by the smoke, threatened to kill the doctor who asked him to put the cigarette out.

Table 3.—*Demographics of Attackers*

	Reported Number of Attacks
Age (years)	
<18	37
19–30	138
31–50	49
>50	12
Race	
Black	126
White	75
Hispanic	31
Asian	5
Sex	
Male	218
Female	19

In Lanza's report, in most cases, the perpetrator swore, issued demands contrary to the staff member's requests, and made threats.[23] Assaultants had poor impulse control and loud voices. Weapons were more often involved in violent acts at psychiatric hospitals (44%) than in public (24%) or private (15%) general hospitals; the kinds of weapons differed, probably due to the search of the patient's belongings prior to psychiatric admission. Weapons commonly included guns or knives (3.7–13%) or room furnishings (4–40%).[24]

The emergency department and wards were most often the settings for assault in our survey. Indeed, most violence has been reported in emergency rooms or other settings that maximize human contact.[25,26] Because of varying data collection methods, it is difficult to compare our data with those of other subspecialties, but across the board, the emergency medicine field has the largest problems with assault—72% of respondents from emergency medicine reported an attack on staff in the last five years.[27] Almost 50% of psychiatric residents reported being assaulted during their careers.[13] Medicine residents reported a 16% assault rate, many reporting multiple assaults. Family practitioners reported a 3.3% assault rate.[14]

With the data we and others have gathered, some guidelines for dealing with violence in the hospital, as well as preventing it, can be offered.

The most important task to be accomplished after an assault is a report of exactly what occurred. Two hundred and three assaults on 800 nursing staff members occurred during 1 year in a state hospital. The investigators estimated that there were five times as many assaults that went unreported.[28]

Lanza developed an instrument called the Assault Response Questionnaire, a comprehensive survey to be filled out several days to a week after the assault. The survey can be mailed to a victim or can be administered by an interviewer. This instrument can assist hospitals to identify trends and perhaps develop a training program that is responsive to employees' needs.[24] At the Royal Victoria Hospital in Montreal, an employee care program was implemented in 1982. They named a task force to address problems of security, rapidly tranquilizing patients, forming a crisis team, gathering statistics on patient violence, and training staff in the handling of aggressive patients. This team developed a protocol on the management of staff members who are physically abused. Such a program not only assists employees but also encourages a healthier work atmosphere.[21]

In the first study of its kind, Carmel and Hunter found that the level of the ward staff's compliance with mandated training in management of assaultive behavior was associated with the rate of staff injury from inpatient violence.[29] The high-compliance wards experienced much lower instances of injury than the low-compliance wards. This suggests, of course, that employees may benefit from training programs that assist them in handling assaultive behavior.

Another important aspect of violence in hospitals is the cost to the hospital after the violence occurs. Researchers estimate cost of violence to range from $38,000 to $766,290 per year.[7,29] These costs further illustrate the need for training programs to decrease and eliminate violence in hospitals.

Conclusions

There are now many additional avenues of research to be pursued. Perhaps characteristics of potential attackers should be investigated in order to understand what leads to attacks and how they can be prevented in the future. There should also be future research about what is done after an attack—report procedures and services offered to a victim. Potentially a crisis team may be established to gather statistics on patient violence and train staff, especially junior residents, in the handling of aggressive patients. With increased violence in the workplace being reported nationwide,[30] hospital personnel, including physicians, need to be aware of the potential for violence.

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